



Ministry
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Environment

Ontario

Hon. George A. Kerr, Q.C.,
Minister

Everett Biggs,
Deputy Minister

about pesticides

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SPRUCE BUDWORM

CHORISTONEURA FUMIFERANA (CLEMENS)



While this is primarily a forest insect and usually occurs over the coniferous forests of southern Canada, during the past few years large flights of the moths have invaded many suburban areas and the larvae have caused severe injury to fir, spruce and larch trees.

The damage is caused by the caterpillars eating the foliage of the terminal shoots. Feeding begins at the top of the tree and as the shoots are stripped the caterpillars drop to lower branches. In heavy infestations the trees appear as if the tops had been scorched.

Winter is passed as tiny caterpillars encased on the twigs. When the buds burst in spring the caterpillars emerge and feed for 3 to 6 weeks becoming full grown in late June or early July. When mature they are 1 inch long, dark brown, with a yellow stripe on each side of the body. They pupate in loose cocoons amongst the foliage and the moths appear in July and early August. The moths are reddish-brown and have a wing expanse of about 1 inch. They lay greenish scale-like eggs in overlapping masses along the underside of the needles. The eggs hatch in about 10 days but the caterpillars feed for only a short time before going into hibernation. There is only one generation a year.

CONTROL

In the forest, control is necessary over a wide area and is usually done by aircraft.

In suburban areas individual trees or groups of trees can be treated by using a sprayer that has sufficient power to reach the tops of the trees. If a person has not got power equipment, they should call in a licenced exterminator.

MATERIALS

Mix one of the following insecticides in water in the amount listed and spray the foliage thoroughly about mid-May or when the larvae appear.

(Con/t)/2.

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	<u>100 Gallons Water</u>	<u>1 Gallon Water</u>
malathion 50% EC	1 quart	2 teaspoons
*Cygon 4E	1 pint	1 teaspoon
*Zectran 2E	1 quart	2 teaspoons
*Sevin 85% WP	1 1/4 lb	1 1/4 tablespoons
Sevin 50% WP	2 lb	2 tablespoons
Cygon 2E	1 quart	2 teaspoons

*Available to licenced exterminators only.

All of the above chemical recommendations have been endorsed by the Ontario Pesticides Advisory Committee in "1975-76 Production Recommendations for Ornamentals and Turf", Ontario Ministry of Agriculture and Food Publication # 383.

Important natural control factors affecting the spruce budworm are:

1. the loss of young larvae through competition for new foliage in heavy infestations;
2. loss of young larvae as a result of cooler than normal temperatures and late frosts in the spring;
3. loss of large larvae through starvation following defoliation; and
4. loss of adults through dispersal.

REFERENCE

Eastern Forest Insects

W. L. Baker,
U.S. Department of Agriculture, Forest Service,
Misc. Publication # 1175.